

## Teachers' perceptions of factors impeding school improvement in Serbia

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In the last ten years the education system in Serbia has undergone a series of innovations which have encountered various obstacles. Teachers, as the key actors in the implementation of innovations, have implicit perceptions which may impact on the success of any school improvement. Therefore this study employed a mixed methods research strategy to investigate what teachers see as the obstacles to school improvement. A qualitative study implied four focus groups with teachers, while quantitative data was gathered through a questionnaire completed by 1,441 teachers from 40 primary schools from different regions around Serbia. Factor analysis confirmed that the potential obstacles could be grouped into six factors (Teachers' incompetence, Material and organizational barriers, Lack of systemic support, Student related barriers, Lack of communication within the school, Lack of communication between schools and stakeholders). Teachers see the biggest obstacles to school improvement in student related and material and organizational barriers. Teachers do not see themselves as the most significant source of problems in improving the work of schools, but transfer responsibility onto more general issues and external agents.

*Key words:* teachers, elementary school, school improvement

During the analysis of the strategies schools use to improve the quality of education, whether pertaining to the introduction of innovations, the implementation of intervention programs or broader educational reforms, it is important to identify those obstacles which arise in the course of the implementation of such strategies. The corpus of research studies spanning decades about the outcomes of educational reforms clearly shows that such changes are superficial and short term if, during their planning and implementation, attention is not paid to teachers as the key actors and their professional development (Akert & Martin, 2012; Elmore, 2004; Hargreaves,

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*Acknowledgments.* This article is the result of the projects „From encouraging initiative, cooperation and creativity in education to new roles and identities in society“ (No. 179034) and „Improving the quality and accessibility of education in modernization processes in Serbia“ (No 47008), financially supported by the Ministry of Education, Science and Technological Development of the Republic of Serbia (2011-2014).

1994; Teddlie & Stringfield, 1993; Wheatley, 2002). In other words, there are no successful changes if teachers are not motivated to change themselves, if they do not see the sense and purpose of their engagement in those changes and if they do not develop different teaching practice. That means that it is of essential importance to analyze the significance which teachers attribute to reforms, their perceptions, beliefs and values, in order to enable, particularly on the semantic plane, teachers to accept educational reform and harmonize it with their personal beliefs and identities (Fullan, 2003; 2007; 2008; Hargreaves, 1994).

A milestone in the investigation of the teacher's role in improving the quality of education took place at the beginning of the 1980's (Brophy & Good, 1986; Fisher, Lynch, & Paterson, 1985; Rosenshine & Furst, 1973; Schaffer, Devlin-Scherer, & Stringfield, 2007; Stallings, 1980) and the first studies to research teachers' perceptions of the obstacles to school improvement date back to that period. The pioneering study carried out by Martin and associates (1984) reported that in the USA, teachers claimed that the main problem was the lack of discipline in the classroom. At that time teachers spent most of their time in schools taking care of and calming their students down. Several years later, as part of the National Centre for Education Statistics (NCES, 1992), the same authors discovered that the majority of teachers complained about parents' disinterest in students' education. In state schools, family's poor social-economic status was more often mentioned as a problem than the lack of parental participation. Students' lack of motivation and disrespect for their teachers also appeared among other problems.

A wider range of educational obstacles were identified in research studies dealing with the evaluation of various educational programs, leaning on the perceptions of teachers as those who implement those programs. Experiences from the implementation of the Inquiry Learning Partnership program showed that the most significant obstacles encountered by teachers in their attempts to improve the teaching of sciences were as follows: 1) the school management does not allocate a sufficient number of classes for the implementation of new knowledge and methods in science teaching; 2) there is pressure to comply with the predicted curriculum, which narrows down the possibilities for the implementation of a research approach to teaching; 3) the lack of teaching and material resources for the implementation of the research approach to teaching; 4) students do not know how to use the freedom which the inquiry based learning provides in a constructive way or they misuse it (Buczynski & Hansen, 2010). In the study of obstacles to inquiry based science teaching in schools in urban areas, the main difficulties found were: 1) inadequate physical and material conditions – lack of space, overcrowded classes, noise, lack of equipment and teaching materials, inadequate ICT infrastructure; 2) lack of time for planning, implementing and analyzing new programs based on research teaching; 3) restrictions which the curriculum imposes upon teachers; 4) lack of support from the director, colleagues and education authorities; 5) lack of teachers' expert knowledge and poor computer literacy (Songer, Lee, & Kam, 2002).

In most educational reforms the professional development of the teaching staff is treated as a crucial step towards the improvement of education quality and students' achievement (Avalos, 2011; Elmore, 2004; Fishman, Marx, Best, & Tal, 2003; Vescio, Ross, & Adams, 2008). During the last decade, several significant studies were carried out where teachers reported on the key barriers to their engagement in professional development programs, but also in the implementation of the knowledge achieved within the framework of such programs. In a large cross-cultural survey in 2008, TALIS (Teaching and Learning International Survey), in which teachers from 32 countries participated, 47% of teachers from all countries stated that they have problems coordinating the overburdened school timetable which prevents them from devoting additional time to professional development. As a second obstacle, 42% of teachers stated that there are no adequate training seminars to help with their professional development. The exceptions were Mexico, Poland and Hungary, where teachers mostly cited family obligations as the biggest obstacles (47%). Among the other specified obstacles were statements that professional development is too expensive and that there is insufficient support from the educational authorities (OECD, 2009). In the study which integrates the experiences of teachers who participated in various professional development programs, the most significant obstacles to their implementation are: 1) lack of time to implement the professional development program because of teachers' need to meet other professional obligations, busy working schedule and potential burnout syndrome; 2) inadequate professional development which fails to meet teachers' needs; 3) lack of cooperation among colleagues and support from older colleagues, school management and school authorities to implement changes in teaching 4) lack of teachers' initiative (Rhodes & Houghton-Hill, 2000). When it comes to professional development programs, whose goal is to encourage teachers' leadership skills, teachers see the biggest obstacles in: 1) teachers' unwillingness to accept the role of leader, the perception of teachers that they are practitioners and not leaders; 2) the burden of every day obligations and the professional challenges which teachers encounter, resulting in a shortage of time to manage changes; 3) lack of experience and self-confidence as well as lack of support from colleagues to be the leader; 4) the tendency of the school management and older colleagues to manage 'from the top' and not to accept teachers' proposals; 5) the director as a weak leader – teachers do not know what is expected of them, there is no clear division of roles, no clear or timely communication; 6) poor cooperation culture, teachers' individualism and mistrust (Muijs & Harris, 2007). In research into the possibilities and obstacles for encouraging cooperation orientated professional development, the most significant obstacles were: 1) organization of classes – timetable, lack of time for meetings and cooperation; 2) culture of teachers' individualism; 3) lack of support – the system does not value cooperative activities (Kennedy, 2011).

Even though domestic research has not dealt directly with teachers' perceptions of the factors which impede school improvement, studies which researched the attitudes of teachers' to the educational reforms carried out

after 2000 provided certain information about the problems which teachers encounter in their work. However, none of those studies carried out research in a systematic way into which barriers, according to teachers, prevented the successful implementation of the reforms. The study conducted by a group of authors as part of the project "Images of educational change in Serbia: Reflecting on the past, envisioning the future", emphasized that the majority of teachers think that their perspective was not taken into consideration during the design and implementation of educational reforms. As important problems they encounter in their work the teachers also emphasized an inadequate professional development programs, the lack of clarity of regulations and laws, unproductive communication between competent institutions and schools, the state and society's unsatisfactory approach to education, the scope of administrative demands and low wages in education (Stanković et al., 2012; Vujačić et al., 2011). In the project, "Teachers in Serbia: positions on the profession and educational reforms", a group of authors also provided insight into teachers' attitudes to attempts to improve the quality of education as well as the problems teachers encounter in such attempts (Pantić & Čekić-Marković, 2012). These authors report that even though the teachers declaratively expressed their readiness to participate in school and education improvement, they do not spontaneously recognize such engagement as part of their own role and do not talk about it when describing their daily practice. Similar to studies pertaining to attitudes to changes in education, this group of authors also report that teachers have the impression that they are not a significant link in the decision making process and that the lack of feedback information from higher levels contributes to that feeling. The teachers emphasized the specific problems they encounter in their work as: 1) the curriculum and its realization; 2) the number of students in classes; 3) exclusion from the school management process; 4) inadequate cooperation with parents.

### **Scope of the study**

The goal of this research was to examine which aspects of school functioning teachers see as crucial obstacles to school improvement. Previous research studies showed that teachers play the key role in the successful implementation of changes in education, a fact which leads us to research particularly their perspectives on the obstacles which impede school improvement.

However, in spite of numerous findings in the literature about the various obstacles which have occurred during attempts at school quality improvement, this problem in the education system in Serbia was not dealt with in a systematic way. In recent years the education system in Serbia has been burdened with the implementation of various changes. Data shows that as many as three big educational reforms have been carried out and that the various actors in those processes are discontent with those innovations or they believe that no changes actually took place (Stanković et al., 2012; Vujačić et al., 2011). The recognition of the main obstacles which teachers see in that process would significantly help to direct various kinds of interventions in schools.

## Method

### Participants

A total of 38 elementary teachers (18 lower elementary teachers and 20 upper elementary teachers) from one Serbian city (Belgrade) and two towns (Valjevo and Jagodina) participated in the initial focus group component of the study. There were 16 female and 2 male lower elementary teachers and 16 female and 4 male upper elementary teachers. Their ages ranged from 28 to 65 years of age.

The subsequent quantitative phase of the study was carried out on a sample of 1,441 teachers from 40 Serbian elementary schools (1<sup>st</sup>–8<sup>th</sup> grade). Serbia was divided into three geographical regions. Schools were drawn from each region from urban and rural areas by a stratified random procedure. The sample consisted of 78% females, and the age of the teachers varied from 24 to 65. The mean age was 44.26 ( $SD = 9.77$  years), and the average number of years in the teaching profession was 17.41 ( $SD = 10.20$  years). The schools varied with respect to size from schools with seventeen teachers to those with 78 teachers, with the average being 37 ( $SD = 13.59$ ). 43% of the teachers taught at the lower elementary level (grades 1–4); whereas 57% taught at the upper elementary level (grades 5–8).

### Measurement tool and data analysis

This study employed a mixed methods research strategy, utilizing both quantitative and qualitative methods. The focus group technique was used in the initial phase of the research, while a questionnaire was created on the basis of the qualitative data for the second phase. The rationale for this design was to capitalize on the benefits of both sources of data collection.

Qualitative data were needed to provide an initial exploration of the teachers' perceptions of the factors which impede school improvement and to gain a deeper insight into the meanings they use to come up with the problems they experience in improving their work. The focus group technique was used for data collecting (Bloor et al., 2001; Wilkinson, 2004). In this research the focus groups were suitable for encouraging discussions between school actors, in order to offer richer and more direct descriptions of the obstacles they encounter in their professional surrounding (Kamberelis & Dimitriadis, 2005; Pavlović & Džinović, 2007; Wilkinson, 2004). The focus groups were conducted on the basis of the semi-structured guide, whose aim was to obtain answers to the following research question: "Which barriers do teachers encounter in their work?" Four focus groups were held: two with primary class teachers and two with primary subject teachers. They lasted 90 minutes each. The conversations in the focus groups were voice recorded and the resulting material transcribed. The schools in which the focus groups were organized were selected conveniently. The selection of the participants in the research was based on voluntary consent to participate. The participants were recruited by the school counselors who were contacted by the authors and asked to encourage teachers to participate in the focus groups.

The transcribed material was analysed by means of qualitative context analysis (Elo & Kyngäs, 2008). This method involves the identification of thematic units based on the categorisation of "raw" material. Small units consisting of several lines or sentences were extracted from the body of the text on the basis of the message those units carried. Those smaller units were then coded so that the codes reflected the message or meaning of the extracted part of the text. The next step in the analysis was the creation of initial categories which thematically gathered several codes. The initial categories were, at the end, gathered into general categories. The transcripts were read several times in order to verify to what extent the created categories corresponded to the participants' narratives. The consecutive comparison of the narratives and categories resulted in the initial (working) version of the thematic categorising of the material being corrected several times. As we can see from the description of the analytical procedure, the categories were defined on the basis of data from

the focus groups, and not on the previously provided theoretical constructions, thus avoiding any imposition of meaning from the researchers.

Quantitative instruments were used in order to establish the structure and order of the factors which impede school improvement, and to cross-analyse the data in terms of multiple demographic factors. Quantitative data was also needed to generalize the findings to teachers and schools throughout the state. The Factors Impeding School Improvement Scale (FISIS) was formed on the basis of the thematic qualitative data analysis. The scale is made up of 29 items which were created to represent the thematic units extracted by the quality data analysis gathered through the focus groups and then supplemented by those items pertaining to obstacles to school improvement emphasised in previous research studies (Buczynski & Hansen, 2010; Kennedy, 2011; Muijs & Harris, 2007; OECD, 2009; Rhodes & Houghton-Hill, 2000; Songer, Lee, & Kam, 2002). The teachers were tasked with appraising how much each of the named obstacles impeded school improvement with the help of a five degree scale where 1 means 'does not impede at all' and 5 'greatly impedes'. The Cronbach alpha reliability coefficient of the scale was .93. The items on the FISIS are presented in Table 2. The data were analysed by parametric univariant and multi-variant techniques.

The quantitative data collection was administered in October of 2012. The first contact with the schools was made with the school principals in order to obtain permission for data collection. The teachers' representative at each school informed the teachers about the data collection, the purpose of the study and that the participation was anonymous and voluntary for the individual teachers. At that point, the decision to participate was made by the teaching staff at each school.

## Results

### Qualitative Data Analysis

The qualitative analysis of the teaching narratives points out three groups of obstacles to school improvement: 1) inadequate organisation of work in schools; 2) lack of support and poor communication among the main actors; 3) unfavourable material and financial conditions in schools (see Appendix 1).

Inadequate organisation of work stands out as the most important obstacle to school improvement because it determines its basic operating. Any change of organisation is perceived as difficult and likely to cause 'tectonic' changes in the general running of the school. The participants in the research particularly point out the limits which are imposed by the curriculum. Teachers think that it is not necessary to stick too strictly to the curriculum and see that as bureaucratic formalism distanced from the daily class routine. The constraints teachers feel because of the rigid and fragmented curriculum can be seen from the following quote by one of the research participants:

#### Example 1:

I don't know, when I enter the classroom, which flow my lesson will take: from the first question asked, repeating the last lesson, whether one of the students will ask an interesting question, whether that question will lead us in some different direction from what I wrote down in my detailed preparations. That is the pressure of control. They control all of that. And if you don't stick strictly to

the number of classes and subjects... When children show initiative to do something in a group, they have organised themselves well around a particular task, and I have to tell them: “You can’t make that presentation today. Today I’m doing this and that”.

In addition, there is also discord between the planned teaching content of different subjects, therefore the thematically related fields in different subjects are taught too far apart. According to the research participants, the lack of cohesion and flexibility of the current curriculum impedes cooperation among colleagues and the interdisciplinary approach to teaching, as well as restricts teachers’ creativity. The research participants also emphasise similar shortcomings in the existing time and space organisation in schools. Shift work, the ‘isolation’ of classes, and the fragmented timetable create barriers between teachers and prevent the spontaneous exchange of ideas and experiences, which in turn significantly hinders cooperation within the colleagues and the implementation of changes in teaching.

One of the themes which illustrates the problem with the organisation of school activities is the overburden of professional obligations. Teachers complain about huge amounts of documentation, the increased demands of compulsory professional development, and increased engagement in school councils, teams and projects which schools carry out in cooperation with the ministry, and non-governmental and international organisations.

The lack of support and poor communication among teachers, as well as between teachers and the school administration is seen as one of the most important obstacles to school improvement. This refers to the unfavourable social and organisational climate which quashes the ‘impulse of change’ and creates practical difficulties in teachers’ work. Namely, the impression that society and the education system do not appreciate quality and dedicated teachers enough is strongly expressed. One of the most striking indicators of the system’s lack of support for the improvement of quality is the fact that those teachers who achieve exceptional results are not rewarded. The following quote illustrates that impression:

Example 2:

The school system is such that everybody earns the same wage if they have the same number of classes. So, you have a mathematics teacher who is excellent, and his students enter competitions, and you have another mathematics teacher who does not manage to instil even basic knowledge into the children. They earn the same wage.

The absence of support at school hits teachers even more, because they feel the atmosphere in which there is a lack of understanding from both colleagues and the school management more directly. According to the focus group participants, relationships among colleagues are often marked by poor communication and difficulties relying on each other as dependable partners. The position of enthusiastic individuals who face the lack of others’ readiness and

often open resistance to join their initiatives is particularly striking. The research participants emphasise the lack of the director's support as a particularly large barrier to school improvement. Namely, the director is considered as the figure without whose support no 'project' in the school can be implemented and that positions him as the most responsible person for developing cooperative culture in school. The director is expected to be open to new ideas and initiatives, to play an active role in their implementation and, what is more important, to provide financial support for such activities.

The relationships which stand out the most in terms of lack of understanding and mutual support are those between teachers and parents. Teachers highlight cooperation with parents as being of crucial importance for successful cooperation with students, but they are ambivalent towards them, which is the result of the changed role of parents in the school system and the unclear boundaries between school and family. Namely, teachers see parents as insufficiently prepared to recognise the importance of the teacher's work with their children and to get involved in their achievements and discipline problems, thus leaving full responsibility for their children to the teacher. On the other side, teachers feel 'threatened' by the increasing power which parents have gained in schools and believe the teacher's authority needs to be protected. Teachers emphasise that the problem is that parents do not have enough respect for teachers and transfer such a critical approach to their children, who consequently do not take school seriously and do not respect the teacher's authority.

The improvement of the quality of work in schools is also hindered by the lack of financial resources and poor technical-didactical equipment. Teachers feel frustrated when activities planned in advance cannot be carried out because of the lack of funds, the lack of teaching equipment and the shortage of rooms and laboratories because not only do they suffer, but the children too. The following quotes describe the situation regarding teaching material and equipment in schools:

Example 3:

Whatever ideas we come up with, we have to improvise in various ways to do things by hook or by crook. At least creativity is being developed, but often that creativity does not help to overcome the problems. We are short of copy-paper, not to mention anything else.

Example 4:

I use workbooks from 1966, old microscopes from the 1960's, and chemical compounds from 1960.

Teachers underscore that the lack of financial resources often jeopardises the realisation of experimental and innovative classes, school performances, and students' participation in competitions etc. In addition, a significant number of teachers believe that finances are barriers to more intensive professional development because schools do not have sufficient funds for seminars. Teachers particularly emphasise that they cannot influence funding and the improvement

of the financial situation in schools and that forces them to creatively adapt to 'poverty' in order to maintain the quality of teaching, which we saw in example 3.

### Quantitative Data Analysis

The analysis of the main components with Promax rotation with Kaiser normalisation confirmed that the 29 factors which impede schools improvement could be grouped into 6 factors which explains the total of 62.31% variance (see Table 1).

From Table 2, which shows the saturation factors, we can see that the first factor groups those obstacles which refer to *teachers' incompetence to work in teaching* (inflexibility in work, lack of personal responsibility, initiative, motivation, competence and team work between teachers). The second factor groups *material barriers* (overcrowded classes, inadequate space, lack of material assets and limited time), as well as those related to the *organisation of work in schools* (strict organisation of work and fixed curriculum).

The third factor includes four barriers reflected in the *lack of systemic support for school functioning* (abandonment and the lack of systemic support, encouragement, direction and high expectations and in insufficient promotion of schools in the local community). The fourth factor refers to *student related barriers* (lack of positive role models, demotivated students and immaturity, as well as students being overloaded with school obligations). In the fifth factor we find those barriers which refer to *the absence of communication within schools* (lack of communication and tolerance, violence among students, unfavourable human relationships, the lack of communication between class and subject teachers, limited communication between teachers and management and educational psychologists). The sixth factor refers to the *lack of communication between schools, parents and the local community* and consists of two barriers (lack of parental involvement and lack of cooperation with the social community and cultural institutions).

Table 1  
*Initial eigenvalues and percentages of explained variance in the factor analysis of the factors in the impeding school improvement scale after Promax rotation*

Factor	Eigenvalues	Percentage of variance	Cumulative percentage
1. Teachers' incompetence	10.210	35.206	35.206
2. Material and organizational barriers	2.474	8.532	43.738
3. Lack of systemic support	1.831	6.314	50.051
4. Student related barriers	1.279	4.411	54.462
5. Lack of communication within schools	1.227	4.231	58.693
6. Lack of communication between schools and stakeholders	1.049	3.618	62.311

Table 2

*Pattern matrix of factors impeding school improvement after Promax rotation*

Items	Factors					
	1	2	3	4	5	6
1. Teachers' inflexibility	.910					
2. Lack of teachers' personal responsibility	.824					
3. Lack of teachers' ideas and personal initiative	.796					
4. Lack of teachers' motivation	.788					-.212
5. Non-recognition of teachers' creative role	.768					
6. Lack of team work	.748					
7. Lack of persistence in problem solving	.745					
8. Teachers' weak competences	.722					
9. Overcrowded classes		.706			.443	
10. Rigid organization of work		.682			.294	
11. Unsuitable premises		.645				
12. Fixed curriculum		.644				
13. Insufficient material resources		.611				
14. Limited time		.576			-.272	.283
15. Lack of high expectations			.828			
16. Abandonment, no systemic support			.737			
17. Lack of encouragement and direction in schools			.733			
18. Insufficient promotion of schools in the local community			.661			
19. Lack of positive role models in society				.808		
20. Unmotivated students				.801		
21. Students' immaturity for school demands				.699	.251	
22. Students' overload with school obligations		.204		.614		
23. Lack of communication and tolerance				.538	.415	
24. Violence among students			-.242	.286	.588	
25. Unfavorable human relationships in schools	.272		.223		.575	
26. Lack of communication between class teachers and subject teachers	.325				.466	
27. Limited communication with management and educational psychologists			.338		.456	
28. Lack of parental involvement						.909
29. Lack of cooperation with civil society and cultural institutions			.266			.686

*Note.* Saturations lower than .2 were omitted from the table

The moderate positive correlations between the factors which represent the six groups of obstacles point out the justification of using oblique rotation (Promax). The review of the matrix of intercorrelations confirmed that the

strongest correlation occurs between Teacher's Incompetence and Lack of communication within schools, and there is a pronounced relation between Teacher's Incompetence and Lack of systemic support, as well as between Lack of communication within schools and Lack of systemic support (see Table 3).

Table 3  
*Intercorrelations between the factors impeding school improvement*

	Teachers' incompetence	Material and organizational barriers	Lack of systemic support	Student related barriers	Lack of communication within schools
Material and organizational barriers	.354**				
Lack of systemic support	.563**	.519**			
Student related barriers	.449**	.389**	.399**		
Lack of communication within schools	.705**	.460**	.591**	.526**	
Lack of communication between schools and stakeholders	.284**	.323**	.357**	.190**	.332**

N = 1441

\*\* $p < .01$

The mean scores for the six groups of barriers were calculated on the basis of the extracted factors (see Figure 1). In order to research whether teachers of different gender and profile attach different significance to the separated groups of barriers to school improvement, we implemented the mixed three-factorial analysis of the variances (class/subject teachers – unrepeated factor, teachers' gender – unrepeated factor, type of barrier – repeated factor). A significant interaction between the type of teacher factor and the type of barrier ( $F_{5,1191} = 9.785, p < .001, \eta^2 = .078$ ) was confirmed. In other words, the majority of both class and subject teachers recognize the negative influence of the student related and material and organizational barriers, while they see those which refer to teachers' incompetence, lack of systemic support and lack of communication within schools and between schools and stakeholders, as moderately impeding school improvement. However, the class and subject teachers differ in terms of the significance they attribute to those obstacles which refer to teachers' incompetence ( $F_{1,1332} = 9.425, p = .002, \eta^2 = .007$ ) and lack of communication within schools ( $F_{1,1350} = 25.03, p < .001, \eta^2 = .027$ ). Class teachers attach slightly greater significance to the negative impact of those groups of obstacles to school improvement.

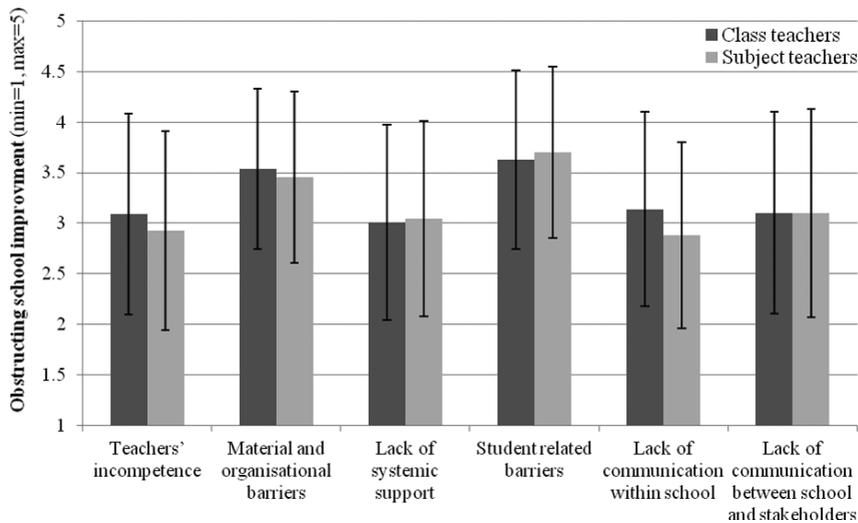


Figure 1. The estimations of teachers of different profiles regarding the negative influence of different groups of barriers on school improvement

Teachers of different gender do not differ in terms of the significance they attach to different groups of factors. In addition, no correlation between work experience in the education system and attaching significance to different groups of extracted factors was found.

## Discussion

The goal of this study was to research which aspects of school functioning teachers see as the key obstacles to school improvement. In spite of the numerous changes and innovations which have been introduced into the education system in Serbia, no domestic study has focused exclusively on what teachers in the education system consider to be the main obstacles in this process. The authors of this work believed that because of this very lack of research into the theme covered in this paper, different methods should be applied in order to obtain comprehensive findings. The data collected from the focus groups helped us to better understand the significance of certain obstacles pointed out by the teachers. This data was also of great importance when formulating the items in the questionnaire which was given to a large number of class and subject teachers. This type of data gathering and its subsequent analysis (qualitative and quantitative) enabled us to gain a wider overview of the potential obstacles which arise in the daily life of the schools in our surroundings.

We quoted the barriers from the teachers' personal experiences on the basis of live discussions with them as well as from an anonymous questionnaire, thus ensuring greater diversity and authenticity of answers. The construction of the Factors Impeding School Improvement Scale (FISIS), which has proved to be a reliable tool for future research into barriers, made a special contribution to

this study. This scale, with good psychometrical properties, may serve teachers and experts to identify the main obstacles to improvement in their schools. We recommend the use of this instrument prior to the introduction of new programs for school improvement and teachers' professional development.

The data gained in this research shows that teachers perceive the biggest obstacles to school improvement in student related and material-organizational obstacles. The majority of class and subject teachers consider students' problematic behavior to be one of the biggest barriers to school improvement. Namely, the teachers listed students' immaturity, lack of motivation, aggressiveness and lack of tolerance as those characteristics which impede the improvement of education quality. The teachers see the causes of such behavior in a larger context: school organization (overloaded time table) and the lack of positive social models. Similar findings were reached in the USA, in one of the first studies to carry out research into teachers' views of the obstacles which impede school improvement in the 1970's (Martin, Walford-Kraemer, & Light, 1984). Just like our teachers, teachers in the US highlighted the main problems as lack of discipline in classes and poor communication with students.

The second biggest obstacle, according to the teachers' perceptions, was the time-space organization of schools. Teachers believe that work in shifts, the rigid curriculum, lack of space, teachers' overload and school poverty quash teachers' motivation and initiative to improve teaching.

It is noticeable that teachers do not see themselves as one of the most significant source of problems in school improvement, but transfer responsibility onto more general issues and external agents. When it comes to students, we may presuppose that teachers do not think that their professional role is to develop pupils' educational aspirations and cognitive-emotional maturity, but expect that from the students themselves, parents or society. The data from the qualitative study also shows that teachers mostly consider the family to be responsible for student's inadequate behavior in schools (discipline problems, unwillingness to cooperate, having no serious approach to obligations and similar). In the light of these findings, we may assume that teachers attempt to find an excuse for their lack of personal engagement in poor material conditions, which is shown in some examples from the focus group participants, who overcome material obstacles in a creative way, "by hook or by crook".

Such perceptions of the barriers to school improvement indicate the teachers' already recognizable approach to changes in schools, which is proved by the results from other research studies (Malinić, 2011; Petersen, 2010; Poulou & Norwich, 2000; Riley & Ungerleider, 2012; Soodak & Podell, 1994). These findings, which could be reduced to the claim that teachers do not see themselves as the agents of change, show that the current picture of teachers is contrary to the role which is expected of them in prevalent theoretical models of changes in education (Fullan, 2007; Hargreaves, 1994). As we saw in the introduction to this paper, for the success of reform programs and school improvement it is important that teachers take on an active role as the initiators and bearers of change. In that sense, international experience shows that those obstacles related to teachers stand out as the biggest barriers to change: inadequate initial

education (pre-service education), continuous professional development (in-service education), the culture of teachers' individualism and similar (Barth, 1990; Day, 1999; Day et al., 2007). It is worrying that our finding supports other research studies suggesting that there is a trend of teachers' diminishing of their responsibility.

The highest correlation between factors was found between Teacher's incompetence and Lack of communication within schools. Teachers who see incompetence as an obstacle, also see the lack of mutual communication as one too. On the other side, teachers who do not see teachers' incompetence as a problem, fail to see the lack of communication in schools as a problem either.

The finding that subject and class teachers have a different view of those obstacles related to teachers' incompetence and lack of communication within schools is interesting. Namely, class teachers perceive a greater negative influence of those obstacles on school improvement. This finding can be better understood if we consider the findings gathered from the participants in the focus groups. Namely, the subject of teachers' competences and cooperation among colleagues was most present in the class teachers' narratives. They are more critical of the current situation pertaining to cooperation between colleagues and they emphasize their discontent which originates from bad communication with subject teachers. On the other side, they notice that cooperation with class teachers is on a better level and cite positive examples from their personal experience, thus providing more arguments that lack of cooperation is a serious barrier to school improvement. Also, class teachers highlight the problem that most school practitioners share the view that it is important to encourage only students' cognitive skills (cramming, studying, adopting the new detailed curriculum), which they recognize as a lack of professional competence. Class teachers also claim that a significant number of subject teachers do not follow modern methods of working with students.

Taking into consideration the insufficient development of teachers' competences, but primarily their 'renouncement' of the role of agents of change, we can pose the question of how to eliminate barriers to school improvement. In other words, there is a paradox which consists of the fact that it is necessary to work with those who do not feel responsible for the situation in schools and who believe that their influence on improving such a situation is small or nonexistent. In such circumstances it is firstly needed to increase the awareness of our teachers that practice in class depends to a great extent on them, that this is the domain in which they 'rule' and they can escape the rigid frames of teaching routine. Also, it is important to help teachers to accept a new professional role which involves their becoming motivators, facilitators and mentors in the process of young people's education. It is of great importance to rely on the minority voice in schools, the one which says that teachers, as the main resources in education, are capable of overcoming numerous material and organizational barriers, barriers on which we cannot have a short-term influence.

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## Appendix 1

Table with categories formed on the basis of qualitative thematic analysis

Transcripts	Initial categories	General categories
Time is not the problem. We used to have six subjects and it was known which three, then another three, and now they've added all kinds of other things and then thousands of roles.	Overwork	
Teacher 1: "I am, for instance, in the opposite shift, therefore I see half of those people once a month". Moderator: "So that means there aren't enough occasions to meet?" Teacher 1: "No, there aren't, we don't meet. Only when we have the teachers' council or specific meetings."	Time and space organisation of work	Organisation of work in school
We are asked to work as a team. We could do that if the curriculum were harmonised, so we did the same things in the same year. Then we could go to each other to visit classes, to do something together.	Curriculum	
I have been in this school for seven years, and has the book of events ever been passed around for us all to see which pupils were praised, which ones won some competition? We have been talking for seven years, at every teachers' council, that we really have pupils to praise, those who achieve excellent results. And nothing.	Lack of systemic and organisational support	
Maybe we expect support and help from colleagues. Sometimes we are on our own in that. For me the problem is that I cannot cope with some things by myself, and I don't have any support or help from the other side and then I just flounder alone.	Lack of support and understanding among teachers	Lack of support and understanding
I have the first grade and rarely does any parent say: "It's OK, thank you, we'll work together, with your help teacher P..., then we'll succeed."	Lack of parental support	
The children have better mobile phones than we do. They have lap tops and everything. Why don't I have lap top presentations? I have a blackboard and no charger.	Lack of teaching materials	
Our school account is blocked and one colleague said: "We have to resolve the transport problem for the chess and mathematic competitions. We call the municipal council, run there and check whether our account is still blocked.	Lack of financial resources	Lack of materials